

ABSTRACT OF THE DISCLOSURE

A network traffic shaper provides high-speed, multi-level shaping. The traffic shaper is in communicating relationship with a forwarding engine, and includes a queue controller having a plurality of queues for storing messages, a scheduler for computing
5 release times, at least one time-searchable memory and a corresponding memory controller. Each queue is preferably associated with a corresponding traffic specifier, and a release time is computed for each queue and stored in the time-searchable memory. When a stored release time expires, the message at the head of the corresponding queue is retrieved and is either moved into a different queue or forwarded by the network device.
10 By moving messages through two or more queues, each having its own release time computed in response to a different traffic specifier, the traffic shaper can perform multi-level shaping on network messages.